INVESTIGATION OF ^{208,209}Fr

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A variety of interesting structural phenomena including shape coexistence, shears bands, intruder structures, and superdeformation are predicted for nuclei to the "northwest" of doubly magic ^{208}Pb. The even-even isotopes in this region have been explored far below the $N = 126$ shell closure, but much less information is available for odd-N or odd-Z isotopes. Investigation of the role of the odd proton may lead to a better understanding of observed structures and deformation. A study of Francium ($Z = 87$) isotopes has begun at the Wright Nuclear Structure Laboratory at Yale University using the SASSYER (Small Angle Separator System at Yale for Evaporation Residues) gas-filled separator coupled to the YRAST Ball Ge detector array. Data and preliminary results for ^{208,209}Fr obtained following the ^{37}Cl + ^{176}Yb → $^{208,\ 209}$Fr + 4,5n reaction will be presented. This work was supported by the U.S. DOE under Contract No. DE-FG02-91ER-40609.